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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/602,513	06/24/2003	Ilya Makhlin	A2-065 US	8764

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MOLEX INCORPORATED  
2222 WELLINGTON COURT  
LISLE, IL 60532

EXAMINER
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KANG, JULIANA K

ART UNIT	PAPER NUMBER
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2874

DATE MAILED: 03/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/602,513	<b>Applicant(s)</b> MAKHLIN ET AL.	
	<b>Examiner</b> Juliana K. Kang	<b>Art Unit</b> 2874	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 November 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/16/04</u> . | 6) <input type="checkbox"/> Other: _____  |

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1. Applicant's communication filed on November 23, 2004 has been carefully studied by the Examiner. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, this action is made **FINAL**.
2. The amendments made to the claims, drawing and specification overcome the objections indicated in the previous Office action. Thus, the objections to the drawing, specification and claims are hereby withdrawn.

***Claim Rejections - 35 USC § 103***

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. Claims 1-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee (U.S. Patent 6,655,851 B1, previously applied upon), and further in view of Fleenor et al (U. S. Patent 6,550,979 B1).

Regarding claim 1, Lee discloses a fiber optic connector assembly comprising: an outer connector housing (26) having a front mating end, a rear end and a through passage extending between the ends and defining an optical axis, the housing having a first key (60) in the passage at a given position angularly about the optic axis; an inner optical fiber plug (28) for terminating at least one optical fiber cable, the plug being disposed in the through passage in the housing with a front ferrule (20) portion of the plug terminating the optical fiber at the front mating end of the housing, with the fiber optic cable extending from the rear end of the housing (see column 1 lines 5-17); a key ring (52) rotatably mounted about the plug and fixable on the plug at selected positions

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of rotational adjustment (see column 1 lines 60-65), the key ring having a second key (56) lockable with the first key on the housing once the key ring is fixed on the plug (see column 2 lines 1-6). However, Lee does not explicitly teach that the key ring and the plug are configured to enable the optical fiber and the plug to be inserted into the housing in a single orientation. Fleenor et al teach an optical fiber connector assembly wherein the keys are different allowing only one possible orientation (see column 7 lines 57-64). Lee and Fleenor et al connectors are optical connectors that can be used for any optical fibers including a polarization maintaining fiber (PM). Having only one possible orientation would allow optimal coupling efficiency in a PM fiber. Thus it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the key ring and the plug configuration of Fleenor et al in Lee allowing only a single orientation for optimum coupling efficiency. Please note it has been held that the functional "whereby" statement does not define any structure and accordingly cannot serve to distinguish. Anyhow, Lee discloses rotating the plug to obtain a desired rotational alignment of the optical fiber and fixing the optical fiber cable in position relative to the connector using keys so that the rotational alignment of the optical fiber is maintained (see column 1 lines 5-17).

Regarding claims 2 and 6, Lee discloses the first key comprising a recessed keyway (62) in the through passage of the housing, and the second key (56) comprising a key member projecting from the key ring (see Fig. 5).

Regarding claim 3, Lee shows the claimed limitation in Fig. 4.

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Regarding claim 4, Lee discloses the recessed keyway that is located in a socket in the through passage of the housing for receiving a plug portion of the optical fiber plug, the key ring being disposed about and fixable to the plug portion (see column 4 line 53-65).

Regarding claims 7-10 and 12, as described above Lee discloses the claimed invention.

Regarding claims 13-17 and 19, as described above Lee discloses the method of adjusting the rotational position of an optical fiber angularly of an optic axis in a fiber optic connector assembly including locking the first and second keys (see claim 2 of Lee).

Regarding claims 5, 11 and 18, as described above Lee teaches fixing the key ring to the plug except an adhesive (see column 4 lines 53-60). Using an adhesive in an optical fiber art is well known to provide extra bonding strength. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use an adhesive in Lee to provide extra bonding strength.

### ***Response to Arguments***

5. Applicant's arguments with respect to claims 1-19 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Olson et al (U.S. Patent 5,633,970) teach an optical fiber having asymmetrical features for rotational alignment of non-symmetrical articles (see column 9 line 59 to column 10 line 6).

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Juliana K. Kang whose telephone number is (571) 272-2348. The examiner can normally be reached on Mon. & Fri. 10:00-6:00 and Tue. & Thur. 10:00-3:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rod Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Juliana Kang* 3/1/05  
JULIANA KANG  
PRIMARY EXAMINER